

I'm feeling lucky!

Applying Google Maps and Google Street View in environmental criminological research

Christophe Vandeviver

t. +32 9 264 97 16

f. +32 9 264 84 94

e. Christophe.Vandeviver@UGent.be

October 10, 2013

Introduction

October 10, 2013

Workshop 'innovative research methods'

Technology impacts our daily lives



For the good, the bad and the criminologist?

- Friends, likes, tweets and check-ins
- “It is probable that the most deadly and the most demoralizing single instrumentality of present-day civilization is the automobile.” (Park et al., 1925, p. 107)
- “Google Street View is a great tool for thieves” (Belgian Federal Police in De Tijd, 24/11/2011)

Google Maps and Google Street View as a tool for environmental criminological research!?

research

publications

conferences

consultancy

www.ircp.org

Possible applications in criminology

October 10, 2013

Workshop 'innovative research methods'

Test hypothesis related to Google Maps

- Target selection process of burglars

Re-asses established theories and common practices in research

- Offenders' awareness space

Time-saving tool in data collection phase

- Charting the built environment

research

publications

conferences

consultancy

www.ircp.org



Institute for
International Research on Criminal Policy
Ghent University

Christophe Vandeviver
+32 9 264 97 16
Christophe.Vandeviver@UGent.be

1. Test hypothesis related to Google Maps (1)

October 10, 2013

Workshop 'innovative research methods'

Is Google Street View really “a great tool for thieves”?

Target selection process

- Characteristics of built environment and individual house
- Typically observed in situ during day-to-day activities or reconnaissance
- GM & GSV might facilitate reconnaissance
- But GM & GSV have their limitations (e.g. GSV-imagery is dated)

Uncharted criminological territory!

- Experiment with criminology students
 - Select a suitable burglary target
 - Several methods of target selection



research

publications

conferences

consultancy

www.ircp.org



Institute for
International Research on Criminal Policy
Ghent University

Christophe Vandeviver
+32 9 264 97 16
Christophe.Vandeviver@UGent.be

1. Test hypothesis related to Google Maps (2)

October 10, 2013

Workshop 'innovative research methods'

No spontaneous use of GM & GSV

- 2 of 18 participants (11,11%) in group 1 spontaneously used GM & GSV
- Photo requirement reduces added value of GM & GSV

Previously established awareness of opportunities guides use of GM & GSV

- GM & GSV facilitates reconnaissance
 - Targets are selected from familiar houses
 - GM & GSV are used for double-checking
- Added value of GSV is questioned because of 'quality of imagery'

Conclusion

- Unlikely burglars use GM & GSV
- But ... more research is needed

research

publications

conferences

consultancy

www.ircp.org

1. Test hypothesis related to Google Maps (3)

October 10, 2013

Workshop 'innovative research methods'

Straightforward example, but opens up new perspectives

- E.g. recruit (ex-)burglars and redo experiment

For full article on GM and burglary target selection see

- Van Daele, S., Peeters, M., Vandeviver, C., Ledure, E., & Vander Beken, T. (2012). Technische hulpmiddelen en doelwitselectie bij woninginbraak : een experimenteel onderzoek naar de invloed van Google Maps en Google Street View. *Tijdschrift voor Criminologie*, 54(4), 362-373.

research

publications

conferences

consultancy

www.ircp.org



Institute for
International Research on Criminal Policy
Ghent University

Christophe Vandeviver
+32 9 264 97 16
Christophe.Vandeviver@UGent.be

2. Re-asses theories & practices (1)

October 10, 2013

Workshop 'innovative research methods'

Does Google Maps expands offenders' awareness space?

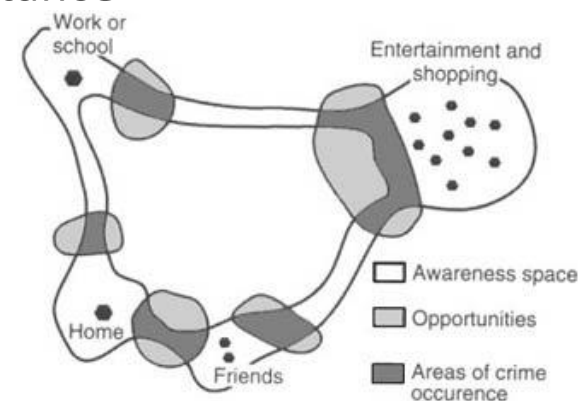
- Facebook altered stalking patterns (Pratt et al., 2010)
- Internet changed consumer fraud (Buhi et al., 2009)

Awareness space shapes criminal mobility patterns

- AS is established during (non-)criminal day-to-day activities
- GM & GSV can expand AS
- AS is measured using shortest journey to crime distance

Experiment with criminology students

- 5 activity nodes, incl. legal home and actual home



research

publications

conferences

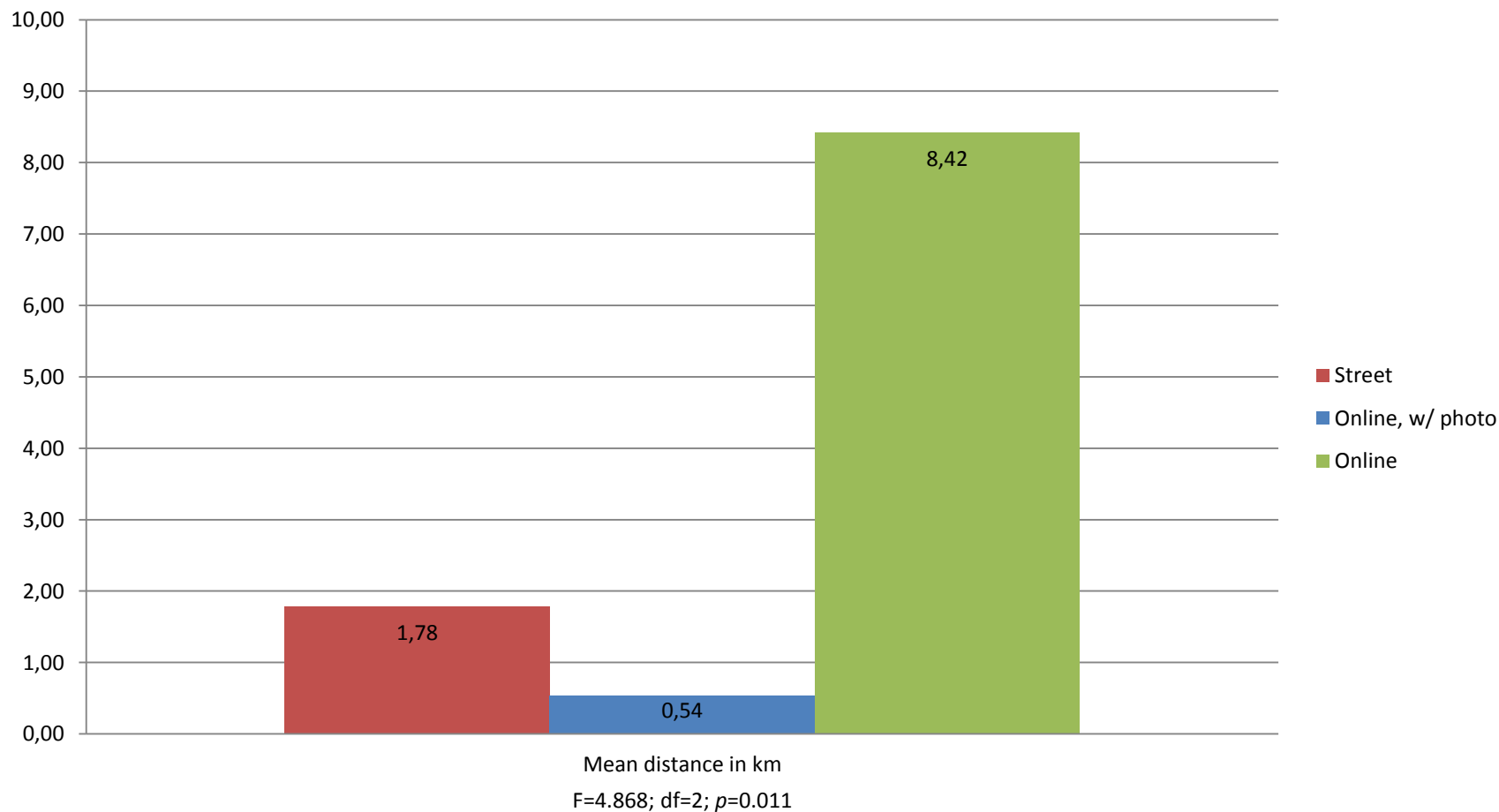
consultancy

2. Re-asses theories and practices (2)

October 10, 2013

Workshop 'innovative research methods'

Average distance to nearest node (incl. residences) per group



research

publications

conferences

consultancy

www.ircp.org

2. Re-asses theories and practices (3)

October 10, 2013

Workshop 'innovative research methods'

Using GM & GSV to re-asses existing criminological theories

- ... and scrutinize common (mis-)practices in criminological research (e.g. home as starting point in journey to crime research)

Full article currently under review

- Van Daele, S. & Vandeviver, C. (under review). Let me Google that for you! Awareness space and the journey to crime in the information era.

research

publications

conferences

consultancy

www.ircp.org



Institute for
International Research on Criminal Policy
Ghent University

Christophe Vandeviver
+32 9 264 97 16
Christophe.Vandeviver@UGent.be

3. Save time during data collection (1)

October 10, 2013

Workshop 'innovative research methods'

Is Google Street View useful for collecting environmental data?

- Applying Google Earth in archeology (e.g. Kennedy, 2011)

If burglars use Google Street View for casing, researchers could use Google Street View to collect data on built environment as well

Has been applied successfully in health studies

- e.g. Badland et al. 2010; Clarke et al. 2010; Rundle et al. 2011
- Results look promising for criminology!

research

publications

conferences

consultancy

www.ircp.org

3. Save time during data collection (2)

October 10, 2013

Workshop 'innovative research methods'

Reliable measures through GSV

Cost- and time-effective

- Eliminates need for travel and on-site visit
- Re-visit study area when additional information is needed

Opens up perspectives for comparative international research

- Similar imagery in different settings
- 'World at your fingertips'

Limitations

- Time lapse between date of GSV image and time of study
- Quality of GSV imagery
- Qualitative assessments difficult

research

publications

conferences

consultancy

www.ircp.org



Institute for
International Research on Criminal Policy
Ghent University

Christophe Vandeviver
+32 9 264 97 16
Christophe.Vandeviver@UGent.be

Discussion

October 10, 2013

Workshop 'innovative research methods'

Google Maps and Google Street View in environmental criminological research!

- Source of societal concern but also ideas for criminological research
- Inspiration for re-visiting criminological theories
- Tool for data collection

What about other strands of criminological research

- Limited to quantitative methods (cf. Clarke et al. 2010, p. 1228)?
- Application outside of environmental criminology?

research

publications

conferences

consultancy

www.ircp.org



Institute for
International Research on Criminal Policy
Ghent University

Christophe Vandeviver
+32 9 264 97 16
Christophe.Vandeviver@UGent.be

References

October 10, 2013

Workshop 'innovative research methods'

- Badland, H. M., Opit, S., Witten, K., Kearns, R. A., & Mavoa, S. (2010). Can Virtual Streetscape Audits Reliably Replace Physical Streetscape Audits? *Journal of Urban Health-Bulletin of the New York Academy of Medicine*, 87(6), 1007-1016. doi: 10.1007/s11524-010-9505-x
- Buhi, E. R., Clayton, H., & Surrency, H. H. (2009). Stalking Victimization Among College Women and Subsequent Help-Seeking Behaviors. *Journal of American College Health*, 57(4), 419-426. doi: 10.3200/jach.57.4.419-426
- Clarke, P., Ailshire, J., Melendez, R., Bader, M., & Morenoff, J. (2010). Using Google Earth to conduct a neighborhood audit: Reliability of a virtual audit instrument. *Health & Place*, 16(6), 1224-1229. doi: 10.1016/j.healthplace.2010.08.007
- De Tijd (24/11/2011). Google Street View fantastische tool voor dieven. *De Tijd*. Geraadpleegd op 3 mei 2012 via http://www.tijd.be/nieuws/ondernemingen_media/Google_Street_View_fantastische_tool_voor_dieven.9130597-3121.art
- Kennedy, D. (2011). The "Works of the Old Men" in Arabia: remote sensing in interior Arabia. *Journal of Archaeological Science*, 38(12), 3185-3203. doi: http://dx.doi.org/10.1016/j.jas.2011.05.027
- Park, R., Burgess, E., McKenzie, R., & Wirth, L. (1925). *The City*. Chicago: University of Chicago Press.
- Pratt, T. C., Holtfreter, K., & Reisig, M. D. (2010). Routine Online Activity and Internet Fraud Targeting: Extending the Generality of Routine Activity Theory. *Journal of Research in Crime and Delinquency*, 47(3), 267-296. doi: 10.1177/0022427810365903
- Rundle, A. G., Bader, M. D. M., Richards, C. A., Neckerman, K. M., & Teitler, J. O. (2011). Using Google Street View to Audit Neighborhood Environments. *American Journal of Preventive Medicine*, 40(1), 94-100. doi: 10.1016/j.amepre.2010.09.034

research

publications

conferences

consultancy

www.ircp.org



Institute for
International Research on Criminal Policy
Ghent University

Christophe Vandeviver
+32 9 264 97 16
Christophe.Vandeviver@UGent.be

www.ircp.org

Contact Speaker

Christophe Vandeviver

t. +32 9 264 97 16

f. +32 9 264 84 94

e. Christophe.Vandeviver@UGent.be

IRCP

Ghent University
Universiteitstraat 4
B – 9000 Ghent